

ZHIGACH, K.F. [deceased]; GORODNOV, V.D.; ADEL', I.B.

Effect of electrolytes and carboxymethylcellulose on the strength
of structure in drilling mud-liquid systems. Koll. zhur. 27 no.1:
46-50 Ja-F '65. (MIRA 18:3)

1. Moskovskiy institut neftekhimicheskoy i gazovoy promyshlennosti
imeni Gubkina.

LOPATIN, V.A.; MUKHIN, L.K.; ZHIGACH, K.F.

Stability of clay rocks in the drilling of deep wells with high
bottom temperatures. Izv. vys. ucheb. zav.; neft' i gaz 7 no.7:
23-28 '64. (MIRA 17:9)

1. Moskovskiy institut neftekhimicheskoy i gazovoy promyshlennosti
im. akademika I.M. Gubkina.

DKHARIYAL, Ch.D.; ZHIGACH, K.F.; MALININA, A.I.; TIMOKHIN, I.M.;
FINKEL'SHTEYN, M.Z.

Factors influencing the effectiveness of cellulose
carboxymethylation. Zhur.prikl.khim. 37 no. 5:1099-1105
My '64. (MIRA 17:7)

1. Moskovskiy institut neftekhimicheskoy i gazovoy
promyshlennosti imeni I.M.Gubkina.

GORODNOV, V.D.; ADEL', I.B.; ZHIGACH, K.F.

Relationship between chemical reagents and the swelling
of clay rocks. Izv. vys. ucheb. zav.; neft' i gaz 5 no.1:35-
40 '62. (MIRA 16:11)

1. Moskovskiy institut neftekhimicheskoy i gazovoy
promyshlennosti imeni akademika I.M. Gubkina.

ZHIGACH, K.F.

LYICHKIN, S.M., ZHIGACH, K.F., BORISOV, P.A., CALPERSON, E.B., KORIAGIN, I.D.,

Present day status and main development trends of the oil industry in the USSR

Report to be submitted for the Sixth World Petroleum Congress, Frankfurt,
16-26 June 63

LEONIDOV, V.I.; ZHIGACH, K.F.; MUKHIN, L.K.

Effect of pressure and temperature on the interaction of flushing fluids and clay rocks. Izv.vys.ucheb. zav. (neft' i gaz 5 no.5: 35-38 '62. (MIRA 16:5)

1. Moskovskiy institut neftekhimicheskoy i gazovoy promyshlennosti imeni akademika I.M.Gubkina.
(Clay) (Oil well drilling fluids)

DKHARIYAL, Ch.D.; ZHIGACH, K.F.; MALININA, A.I.; TIMOKHIN, I.M.;
FINKEL'SHTEYN, M.Z.

Effect of production techniques of carboxymethylcellulose
on its etherification and solubility in water. Izv.vys.ucheb.
zav.; neft' i gaz 5 no.2:29-34 '62. (MIRA 15:7)

1. Moskovskiy institut neftekhimicheskoy i gazovoy
promyshlennosti imeni akademika I.M. Gubkina.
(Cellulose)

LEONIDOV, V.I.; MUKHIN, L.K.; ZHIGACH, K.F.

Improving the method of studying the effect of drilling fluids
on the strength of clay rocks. Izv. vys. ucheb. zav.; neft'
i gaz 4 no.2:25-30 '61. (MIRA 15:5)

1. Moskovskiy institut neftekhimicheskoy i gazovoy promyshlennosti
imeni akademika I.M.Gubkina.
(Oil well drilling fluids) (Clay)

ZHIGACH, K.F.; ADEL', I.B.; GORODNOV, V.D.

Effect of temperature on the swelling of clay rocks. Izv. vys.
ucheb. zav.; neft' i gaz 4 no.5:23-29 '61. (MIRA 15:2)

1. Moskovskiy institut neftekhimicheskoy i gazovoy promyshlennosti
im. akademika I.M.Gubkina.

(Oil well drilling) (Clay)

42113

S/069/62/024/005/004/010
B106/B186

15740

AUTHORS:

Zhigach, K. F., Luft, B. D., Finkel'shteyn, M. Z.,
Goloshchapova, I. S., Timokhin, I. M., Chuvilina, L. B.

TITLE:

Investigation of aqueous alundum suspensions stabilized by
carboxy-methyl cellulose for electrophoretic coating

PERIODICAL: Kolloidnyy zhurnal, v. 24, no. 5, 1962, 558 - 564

TEXT: The effect of several physicochemical characteristics of sodium carboxy-methyl cellulose (Na-CMC) on its efficiency as a stabilizer for aqueous suspensions of alundum for electrophoretic coating was studied. The sedimentation stability of the suspension is raised with increasing degrees of polymerization, etherification, and Na-CMC concentration in the suspension. Greater thickness of coatings is obtained with an increasing degree of polymerization of Na-CMC, while increasing etherification resulted in thinner coatings. The homogeneity of coatings improves with a lower degree of polymerization, and a higher degree of etherification and Na-CMC concentration. The anodic gas evolution, which is very detrimental to the quality of coatings, increases with etherification and Na-CMC concentration.

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Investigation of aqueous alundum...

in the suspension, and is reduced by an increasing degree of polymerization. The resistance of coatings to 0.05 N NaOH increases with concentration, degree of polymerization, and etherification of Na-CMC. Electron-microscopic measurements showed that the stabilizing effect of Na-CMC is based on the adsorption of high-molecular ions (CMC)^{-x} to the alundum particles, and on the formation of structurized protecting gels which prevent the joining of the individual particles. The best coatings are obtained by stabilizing the alundum suspensions with purified Na-CMC having a degree of polymerization of 500-550 and a degree of etherification of 70-80 in a concentration of 0.3-0.5% of the aqueous phase. The results were used in developing a new industrial technique of producing electrophoretic insulating coatings from aqueous alundum suspensions on parts of electron tubes. Thus, the use of toxic and inflammable organic solvents and of nitrocellulose can be abandoned. There are 8 figures and 1 table. The English-language reference is: L. E. Grey, Electronic. Eng. 26, 402, 1954.

ASSOCIATION: Moskovskiy institut neftekhimicheskoy i gazovoy promyshlennosti im. I. M. Gubkina (Moscow Institute of Petrochemical and Gas Industry imeni I. M. Gubkin)

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Investigation of aqueous alundum...

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B106/B186

SUBMITTED: April 22, 1961

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AKMULLIN, M.Sh.; ZHIGACH, K.F.

Effect of carboxymethylcellulose on the working capacity of bits
and the energy consumption in a rock-breaking process. Izv.
vys. ucheb. zav.; neft' i gaz 4 no.8:31-36 '61.

(MIRA 14:12)

1. Moskovskiy institut neftekhimicheskoy i gazovoy promyshlennosti
imeni akademika I.M.Gubkina.
(Oil well drilling)

AKMULLIN, M.Sh.; ZHIGACH, K.F.

Effect of nonaqueous drilling fluids on the wear of bits. Izv. vys.
ucheb. zav.; nef't i gaz 4 no.6:33-38 '61. (MIRA 15:1)

1. Moskovskiy institut neftekhimicheskoy i gazovoy promyshlennosti
imeni akademika I.M.Gubkina.
(Oil well drilling fluids) (Mechanical wear)

AKMULLIN, M.Sh.; ZHIGACH, K.F.; SHREYNER, L.A.

Effect of flush fluids on the wear resistance of bits. Izv. vys.
ucheb. zav.; neft' i gaz 3 no.9:29-32 '60. (MIRA 14:4)

1. Moskovskiy institut neftekhimicheskoy i gazovoy promyshlennosti
imeni akademika I.M.Gubkina.
(Oil well drilling fluids) (Boring machinery)

ZHIGACH, K.F.; YEZHOV, P.A.; FINKEL'SHTEYN, M.Z.

Effect of additives of water soluble cellulose ethers on the permeability and mechanical properties of cement stone. Izv. vys. ucheb. zav.; nef't' i gaz 3 no.10:27-30 '60. (MIRA 14:4)

1. Moskovskiy institut neftekhimicheskoy i gazovoy promyshlennosti imeni akademika I.M.Gubkina.
(Cellulose ethers) (Cement)

ZHIGACH, K.F., prof., otv.red.; MURAV'YEV, I.M., prof.; red.; TIKHOMIROV, A.A., kand.ekonom.nauk; red.; VINOGRADOV, V.N., kand.tekhn.nauk, red.; SIDORENKO, N.V., red.; BRENTS, A.D., red.; CHARYGIN, M.M., prof., red.; DONAYEV, F.F., prof., red.; CHARNYY, I.A., prof., red.; CHERNOZHUKOV, N.I., prof., red.; KUZMAK, Ye.M., prof., red.; DAKHNOV, V.N., prof., red.; PANCHENKOV, G.M., prof., red.; NAMISTKIN, N.S., prof., red.; TAGIYEV, E.I., prof., red.; BIRYUKOV, V.I., kand.tekhn.nauk, red.; YEGOROV, V.I., kand.tekhn.nauk, red.; ALMAZOV, N.A., dotsent, red.; GUREVICH, V.M., red.; ISAYEVA, V.V., vedushchiy red.; POLOSINA, A.S., tekhn.red.

[Development of the gas industry of the U.S.S.R.; from the proceedings of the Interuniversity Scientific Conference on the Problems of the Gas Industry] Mezhdvuzovskaya nauchnaya konferentsiya po voprosam gazovoi promyshlennosti. Razvitie gazovoi promyshlennosti SSSR; materialy. Moskva, Gos.nauchno-tekh.izd-vo neft. i gornotoplivnoi lit-ry, 1960. 405 p. (MIRA 13:11)

1. Mezhdvuzovskaya nauchnaya konferentsiya po voprosam gazovoi promyshlennosti. 2. Glavgaz SSSR (for Brents). 3. Moskovskiy institut neftekhimicheskoi i gazovoi promyshlennosti im. akad.Gubkina (for Charygin, Charnyy).

(Gas industry)

ZHIGACH, K.F., doktor khimicheskikh nauk; FINKEL'SHTAYN, M.Z., kand.
khimicheskikh nauk; MOGILEVSKIY, Ye.M., kand.tekhn.nauk; TIMOKHIN,
I.M.

Water-soluble and alkali-soluble cellulose esters. Khim.nauka i
prom. 4 no.6:718-725 '59. (MIRA 13:8)
(Cellulose esters)

FINKEL'SHTEYN, M.Z., kand.tekhn.nauk; ZHIGACH, K.F., prof., doktor khimi-
cheskikh nauk; MOGILEVSKIY, Ye.M., kand.tekhn.nauk; TIBILOVA,
T.A., inzh., MALININA, A.I.

Carboxymethyl ethers of cellulose and their use in the national
economy. Trudy MNI no.20:67-92 '57. (MIRA 13:5)
(Cellulose)

ZHIGACH, K.F., prof., doktor khimicheskikh nauk; KURYSHV, D.D., kand.
tekhn.nauk

Developing a method for softening sea water to be used in the
production of weighted clay muds. Trudy MNI no.20:103-113
'57. (MIRA 13:5)

(Sea water) (Clay)

ZHIGACH, K.F., prof., doktor khimicheskikh nauk; MUKHIN, L.K., kand.
tekhn.nauk; DEMISHEV, V.N., assistant

Physicochemical principles for preparing anhydrous solutions.
Trudy MNI no.20:154-164 '57. (MIRA 13:5)
(Oil well drilling fluids)

ZHIGACH, K.F.; KAS'YANOV, N.M.

Method for determining the η plast. and τ_0 of drilling fluids in
a rotary viscosimeter. Izv.vys.ucheb.zav.; neft' i gaz 2
no.12:99-107 '59. (MIRA 13:5)

1. Moskovskiy institut neftekhimicheskoy i gazovoy promyshlennosti
imeni akademika I.M. Gubkina.
(Oil well drilling fluids)
(Viscosimeter).

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SOV/63-4-6-5/37

AUTHORS: Zhigach, K. F. (Doctor of Chemical Sciences), Finkelshteyn, M. Z. (Candidate of Chemical Sciences), Mogilevskiy, Ye. M., (Candidate of Technical Sciences) Timokhin, I. M.

TITLE: Water- and Alkali-Soluble Cellulose Ethers

PERIODICAL: Khimicheskaya nauka i promyshlennost', 1959, Vol 4, Nr 6, pp 718-725 (USSR)

ABSTRACT: This is a review of the literature dealing with water- and alkali-soluble cellulose ethers used in the preparation of thickening and stabilizing agents, glues, etc. The solubility of carboxymethylcellulose is determined basically by the degree of its etherification γ and the degree of polymerization DP. The difficulty in obtaining highly substituted carboxymethylcellulose compounds was explained by the fact that in methylation in alkaline and neutral media, the secondary hydroxyl groups have the highest reactivity, and that both secondary hydroxyl groups can be

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replaced in methylcellulose compounds (Soobshch. VKhO, 1955, Nr 3, p 9). Carboxymethylcellulose compounds consist of fractions with different degrees of etherification and polymerization. Industrial carboxymethylcellulose nearly always contains an admixture of slightly soluble gel fraction. It was established (DAN SSSR, 1958, Vol 123, Nr 2, 289) that the individual fractions have different stabilizing properties when used as stabilizers of the oil well drilling fluids. The gel fraction has low stabilizing properties, and the stabilizing effect of carboxymethylcellulose compounds solution increases with the decreasing content of the gel fraction, notwithstanding the decreasing viscosity of the solution (Izv. vuzov MVO SSSR, Neft' i gaz, 1959, Nr 6). The viscosity depends on the fraction content, and also on the degree of etherification (DAN SSSR, 1959, Vol 126, Nr 5; RZhKh, 1957, p 10029). With increasing degree of etherification ($\gamma = 20$ to 200) the viscosity increased to a maximum, decreased

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to a minimum, and then increased again. This was explained by two simultaneously acting factors; namely the increasing degree of the macromolecules' asymmetry, due to the introduction of substituents, and the simultaneous decreasing hydration and asymmetry of the macromolecules. Highly etherified carboxymethylcellulose ($\gamma = 135$ and 198) were not thixotropic (RZhKh, 1957, p 10029). The maximum thixotropy was shown by solutions with $\gamma = 70$; this was explained by the maximum symmetry of the macromolecules at this degree of etherification, which enables them to approach and form a thixotropic solution. The thixotropy decreased with the degree of polymerization. Application of carboxymethylcellulose in drilling fluids is discussed. A special type of carboxymethylcellulose was developed which showed a lower water separation rate from clay suspensions than natural stabilizers, such as starch, rosin, and sodium alginate (Novosti neftyanoy tekhniki, neftepromyslovoye delo, Gostoptekhnizdat, 1952, Nr 9; 1953, Nr 6; 1955, Nr 12; 1956, Nr 9; 1957, Nr 7; 1958, Nr 8).

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High-viscosity carboxymethylcellulose compound type GEC was synthesized lately for the improvement of the rheological properties of clayless or clay-poor drilling fluids; these compounds allow for an increase of the drilling speed and elimination of the complicated and labor-consuming clay handling (Neft. khoz., 1958, Nr 1). The applications of carboxymethylcellulose in the detergent industry (Maslob.-zhir. prom., 1958, Nr 7) and ore flotation (Tsvet. met., 1957, Nr 11) is contemplated in the USSR. Carboxymethylcellulose is also used as thickener for textile printing dyes, in the manufacture of glues, and in numerous other industries. Low-molecular-weight highly pure compounds can be used in the preparation of blood plasma substitutes (Trudy Mosk. instituta neftekhim. i gaz. prom., 1959, Nr 24; DAN SSSR, 1958, Vol 123, Nr 3, p 471). The increase in production of carboxymethylcellulose is hampered, however, by the insufficient production of chloroacetic acid. Various syntheses of cellulose sulfates are reviewed, among them the

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Water- and Alkali-Soluble Cellulose Ethers

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sulfation of cellulose with sulfuric acid and methanol mixture (Izv. vuzov MVO SSSR, Neft' 1 gaz, 1959, Nr 11). Carboxyethylcellulose was obtained in reaction of cellulose with acrylonitrile in the presence of alkali (Avt. svid., 1949, p 77409) and in reaction of acrylonitrile with alkali cellulose (ZhPKh, 1956, Nr 1, p 105). The syntheses of methyl-, ethyl-, and hydroxyethylcellulose as well as mixed cellulose ethers are reviewed. There are 5 figures; and 147 references, 41 U.S., 13 U.K., 1 French, 1 Belgian, 2 Dutch, 3 Canadian, 2 Swiss, 8 Swedish, 1 Japanese, 1 Austrian, 18 German, 56 Soviet. Recent U.S. and U.K. references are: E. H. de Butts, J. A. Hudy, J. H. Elliott, Ind. Eng. Chem., 49, Nr 1, 94 (1957); Chem. Eng. News, 35, Nr 4, 78 (1957); Chem. Trade J., Nr 3620, 905 (1956); Chem. Eng. News, 34, Nr 36, 4253 (1956); J. Swintosky, A. Kaufman, J. Am. Pharm. Ass., 44, Nr 9, 540 (1955).

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ZHIGACH, K. F.

11(4) PAGE 1 BOOK EXPLOITATION SOV/2124

Mashynovskoye soveshchaniye po voprosam novoy tekhniki v neftyanoy promyshlennosti. Moscow, 1956

Kavrediva i razrabotka nefteyuzhnykh i gazovyykh mestorozhdeniy: materialy soveshchaniya, tom 1 (prospekting and development of oil and gas deposits: papers of the Inter-Pet Conference on New Techniques in the Petroleum Industry, Vol. 1) Moscow, Gostekhnicheskaya literatura, 1958. 311 p. Extra slip inserted. 1,500 copies printed.

Eds.: I. M. Murav'yev, Professor, Doctor of Technical Sciences, and V. N. Dakhnov, Professor, Doctor of Geological and Mineralogical Sciences; Editorial Professor, A. A. Tikhomirov, (Asp. Ed.), I. M. Murav'yev, V. I. Yegorov, Candidate of Geological Sciences, V. I. Yegorov, Professor, V. A. Danyayev, Professor, M. I. Chernomukov, Professor, V. A. Danyayev, Professor, I. A. Charyuy, Professor, G. M. Kuznetsov, Professor, V. N. Dakhnov, Professor, Doctor of Geological and Mineralogical Sciences, M. A. Maslennikov, Doctor of Chemical Sciences, K. A. Almazov, Docent, V. N. Vinogradov, Candidate of Technical Sciences, V. I. Biryukov, Candidate of Technical Sciences, K. I. Tsiglyev, and V. N. Gerasimov. Executive Ed.: M. P. Dobrynina; Tech. Ed.: E. A. Mikhina.

PURPOSE: The book is intended for engineers and scientific personnel working in the petroleum industry and vuzses. It may also serve as a textbook for advanced students of petroleum vuzses.

COMMENTARY: The book contains articles written by staff members of the Moscow, Gruzynskiy and Ufa Petroleum Institutes, the Kuybyshev and Aktyubinsk Petroleum Institutes, the Ural (Ufa Scientific and Research Institute), Wilburnerft, (All-Union Scientific Research Institute of Oil Drilling), KNTP (Design Office of Research Institute of Oil Drilling), KNTP (Design Office of Research Institute of Oil Drilling), the Kuybyshev (Inter-Petroleum). These papers, read at the Kuybyshev (Inter-Petroleum) Scientific Conference, deal with new techniques in the petroleum industry introduced since 1956. Emphasis is given to the importance of efficient drilling, geophysical prospecting, working of oil and gas deposits, and the use of new devices employed in oil and gas exploitation. There are 52 references: 14 Soviet, and 8 English.

Zhigach, K. F.; L. E. Kuznetsov, V. N. Dakhnov, and M. N. Goncharov [Moscow Petroleum Institute]. Petroleum-Base Drilling Fluids... 92

The authors state that petroleum-base drilling fluids are being used to open productive horizons to maintain the permeability of the bottom-hole zone, and to increase the well productivity. The use of petroleum-base drilling fluids is particularly efficient for coming formations with high permeability and low pressure, where the absorption of a large amount of mud by the productive formation may prove dangerous. Petroleum-base drilling fluids also prove useful in opening formations with low permeability, particularly where the formation contains swelling clay. Petroleum-base drilling fluids produce good results in drilling under complex geological conditions and in drilling deep and directional wells.

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 Zilgach, K. P., L. K. Mikhlin, and V. M. Demishchev. [Moscow Petroleum Institute]. Specification of Petroleum-Mud Drilling Fluids. (Moscow Petroleum Institute).
 The authors describe the formula of petroleum-base drilling fluids developed in the laboratories of the MII Leningrad (Moscow Petroleum Institute) and the MII Gubkina (Union Scientific Research Institute for Petroleum Drilling), and also cite foreign formulae and methods for controlling parameters during the operation.

Zilgach, K. P., and K. P. Pusa. Drilling Mud for Opening up Productive Formations. 112
 The authors state that drilling mud had been used almost exclusively for many years. The development of new techniques called, however, for the use of drilling fluids that would speed up and allow drilling under difficult geological conditions. The authors mention the use of drilling fluids that would speed up and penetration without reducing the penetrability at the bottom of the well. Drill practices in eastern regions and experimental surveys established that rocks are better crushed when drilling fluids or gases with low specific gravity and viscosity are used. In eastern fields, water is being substituted for clayey fluids and may soon be replaced in drilling by air and gas.

Zilgach, K. P., and S. Z. Zarikov. Use of Powdery Clay in Drilling. 118
 The authors report on recent tests made in the production of powdery clay and its application in drilling. They refer specifically to the production of powdery clay from Bashkirya and Tatariya clay, manufactured at local plants.

Nikolov, V. N. [Moscow Petroleum Institute]. Geophysical Methods for Studying Reservoir Properties. 125
 The author stresses the need for more thorough prospecting of carbonaceous profiles previously neglected. The industrial importance of carbonaceous profiles of Bashkirya salt may be judged by the results of extensive prospecting in the oil fields of the Bashkirya salt. The author stresses the need for more thorough prospecting in the oil fields of the Bashkirya salt. The author stresses the need for more thorough prospecting in the oil fields of the Bashkirya salt.

Latyazova, M. G., and V. N. Dobrynin. [Moscow Petroleum Institute]. Method of Polarization of Induced Polarization and Its Importance in the Study of Oil and Gas Wells. 150
 The authors stress the importance of studying the reservoir properties of productive horizons on the basis of geophysical data, without coring. Of particular interest is the method of induced polarization developed in the past few years by members of the MVI chair in industrial geophysics. It determines the specific surface and permeability of sandy reservoirs. The method of induced polarization, actually proposed long ago, remained purely academic because the phenomena of induced polarization had originally been misinterpreted. The method was later used extensively in modified form in the oil industry. Systematic studies in establishing the presence of coal layers in the MVI chair of industrial geophysics. Laboratory tests established that induced polarization of rocks may, under specific conditions, reach considerable dimensions. The studies revealed another allusive on the nature of induced polarization of porous rocks. The principal cause of the emission of potentials induced by polarization in porous rocks, when saturated with an electrolyte solution, is the deformation of the coal electrical layer present on the surface of rock grain in the polarized electrical field.

Conclusions:

1. Induced polarization assists in making a fractional breakdown of well cuts and classifies reservoirs of the lowest, medium and highest permeability; it also distinguishes clays of greater and lesser degrees of sandy content.
2. Induced polarization allows an appraisal of the degree of permeability of sandy reservoirs in situations, placing it thereby among the most interesting methods of geophysical studies of oil and gas wells.

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SOV/20-126-5-31/69

AUTHORS:

Zhigach, K. F., Finkel'shteyn, M. Z., Timokhin, I. M.

TITLE:

The Structural Viscosity of Aqueous Solutions of Carboxymethyl Cellulose (Strukturnaya vyazkost' vodnykh rastvorov karboksimetiltseilyulozy)

PERIODICAL:

Doklady Akademii nauk SSSR, 1959. Vol 126, Nr 5, pp 1025-1028 (USSR)

ABSTRACT:

A previous paper (Ref 1) pointed out that carboxymethyl cellulose (CMC) exhibits anomalous viscosity at concentrations exceeding 0.1% in aqueous solutions. Now the effect of the individual fractions of CMC with varying degree of polymerization are investigated with respect to the structure of the solution. Four samples were selected: (1) high-molecular, (2) gel-shaped, (3) sol-shaped, and (4) low-molecular CMC (Table 1). The viscosities measured at different velocity gradient G (viscosimeter by Pinkevich) confirm F. Höppler's opinion (Refs 2,3), i.e., the viscosity of high-molecular CMC depends on G , and this dependence increases with increasing concentration. Sample 2 shows the highest degree of anomaly, whereas sample 4 exhibits the least dependence on G (Table 2). Accord-

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The Structural Viscosity of Aqueous Solutions of Carboxymethyl Cellulose

ing to Pasyunskiy and Rabinovich (Ref 4) this structural viscosity can be represented by the tangent of the angle of inclination α in the coordinate system $\gamma - \lg G$. Table 3 gives the values for $\tan \alpha$, and besides the calculated dynamical shearing stress Φ . It is concluded that the structural viscosity is caused by the gel fraction and the interaction of the gel particles. The attempt was made to eliminate the interaction of gel particles by the addition of sample 3 or 4 and by adsorption of the low-molecular particles to the gel particles. This was a success as figures 2, 3, 4 and table 5 show. Only at high concentrations of sample 4 viscosity increases again, which is explained by complete saturation of the gel particles. Thus, the increased concentration of the CMC becomes effective. The results obtained show that by a proper arrangement of CMC fractions it is possible to control the properties in the desired way. There are 4 figures, 5 tables, and 7 references, 4 of which are Soviet.

ASSOCIATION: Institut neftekhimicheskoy i gazovoy promyshlennosti im.
I. M. Gubkina (Institute of Petroleum-chemical and Gas Industry
imeni I. M. Gubkin)

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PHASE I BOOK EXHIBITION

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Москва. Институт математики и физики Академии наук СССР.

Problem with 1 gas (Oil and Gas Problems) Moscow, Gosoptekhizdat, 1999.
362 p. (Series: 1991 Trud', v. 21) Errata slip inserted, 2,000 copies printed.

Sponsoring Agency: Ministerstvo vysshogo obrazovaniya SSSR.

DR. M. G. P. KARMOUR, Tech. Ed., I. C. Federation, Editorial Board;
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PEERAGE. This collection of articles is intended for specialists in the petroleum gas industry. It will also be of interest to scientific research institutions, teachers and students of vases.

CONTENTS. This collection of articles reviews problems connected with natural and synthetic gas production. A number of articles are devoted to the study of regional oil and gas basins. The problems of the development of the Volga-Bural petroleum-bearing zones, the crystalline beds underlying the same, the problems of oil well logging, the problems of the Caspian deepening, petroleum-bearing formations and their physical and chemical characteristics, and petroleum engineering. Other articles deal with general characteristics, and their possible use in the oil and gas industry, the products of secondary and tertiary transformations, the application of limits exchange, the use of catalysts, continuous refining of heavy petroleum residues (fluidized bed), the improvement of tube oil production, and the influence of acid waters on properties of infiltrating oil and gas. The book contains a number of photographs, diagrams, flow sheets, and graphs. The book contains those relating to coal gasification and conversion of heavy petroleum residues over a fluidized bed catalyst deserve special attention. References accompany individual articles.

**Richertay, R.H. Gas Turbine Engines and Prospects of Utilizing Them
in Petroleum and Gas Industry**

Chilcote, L. E., and N. J. Flannery. I. M. Timbina, and Ye. N. Bogdanov. Study of Physicochemical Properties of Fricions and Low Polymerisation Compounds of Carboxymethylcellulose, and Their Production

Sechlyev, A. V. Is. M. Feukhin, I. P. Ayer, M. V. Iurshov, and O. I. Zaslavsky. Present State of the Synthesis of Benzene Radicals and Their Chemical Processing

catalysis, V-1. Ionic Exchange Tare and Their Application to Organic Catalysis

... (Deceased), A. I. Smolko, Ye. V. Sedukhin, M. P. ...
... N. 3. Karavayev ...

A. A. Secherbakov, V. A. Fein, A. S. Zhurav, and
 P. A. Secherbakov. The Process of Continuous Caking of Heavy
 Petroleum Residues Carried Out Over a Powdered Coke

arapchukov, M. I.; I. P. Inakhevich, A. V. Khatilov, O. G. Suenitsa,
 L. P. Lashova, M. Y. Sedukhina, I. I. Solovtsova, L. N. Markova,
 I. I. Kurikova, E. I. ...

Oil Manufacturing

Stikovsky, D. S. Synthetic Acid Esters and Their Influence on Properties of Lubo Oil and Grease

[illegible][illegible]

CHERNOZHUKOV, N.I., prof., doktor tekhn.nauk, red.; ZHIGACH, K.F., prof., red.; MURAV'YEV, I.M., prof., red.; TIKHOMIROV, A.A., kand.ekon.nauk, red.; YEGOROV, V.I., kand.ekon.nauk, red.; CHARYGIN, M.M., prof., red.; DUNAYEV, F.F., prof., red.; KUZMAK, Ye.M., prof., red.; CHARNYY, I.A., prof., red.; PANCHENKOV, G.M., prof., red.; DAKHNOV, V.N., prof., red.; NAMETKIN, N.S., doktor khim.nauk, red.; ALMAZOV, N.A., dotsent, red.; VINOGRADOV, V.N., kand.tekhn.nauk, red.; BIRYUKOV, V.I., kand.tekhn.nauk, red.; TAGIYEV, B.I., red.; GUREVICH, V.M., red.; ZAMARAYEVA, K.M., vedushchiy red.; MUKHINA, E.A., tekhn.red.

[Petroleum refining; articles] Pererabotka nefi; materialy. Moskva, Gos.nauchno-tekhn.izd-vo nefi i gorne-toplivnoi lit-ry. Vol.2. 1958. 289 p. (MIRA 12:1)

1. Mezhevuzovskoye soveshchaniye po voprosam novej tekhniki v neftyanoy promyshlennosti, Moscow, 1956. 2. Moskovskiy neftyanoy institut (for Chernozhukov, Panchenkov).

(Petroleum--Refining)

ZHIGACH, K.F.; FINKEL'SHTAYN, M.Z.; TIMOKHIN, I.M.; MALININA, A.I.

Carboxymethylcellulose preparations for blood substitute solutions.
Dokl.AN SSSR 123 no.3:471-474 N '58. (MIRA 11:12)

1. Moskovskiy neftyanoy institut imeni I.M.Gubkina. Predstavleno
akademikom A.V.Topchiyevym.
(CELLULOSE) (BLOOD PLASMA SUBSTITUTES)

ZHIGACH, K.F., doktor khim.nauk; ADEL', I.B., kand.tekhn.nauk;
ZAGARMISTR, O.S., inzh.

New viscosity reducers for drilling muds. Trudy VNIIBT no.1:
142-156 '58. (MIRA 11:12)
(Clay) (Viscosity)

ZHIGACH, K.F.; FINKEL'SHTEYN, M.Z.; TIMOKHIN, I.M.; MALININA, A.I.

Preparation of carboxymethylcellulose fractions and investigation of their physicochemical properties. Dokl.AN SSSR 123 no.2:289-291 (MIRA 11:12)
N '58.

1. Moskovskiy neftyanoy institut imeni I.M. Gubkina. Predstavleno akademikom A.V. Topchiyevym.
(Cellulose)

ZHIGACH, K.F., prof., red.; MURAV'YEV, I.M., prof., doktor tekhn.nauk, red.;
 TIKHOMIROV, A.A., kand.ekon.nauk, red.; YEGOROV, V.I., kand.ekon.
 nauk, red.; CHARYGIN, M.M., prof., red.; LUNAYEV, F.F., prof., red.;
 CHERNOZHUKOV, N.I., prof., red.; KUZMAK, Ye.M., prof., red.;
 CHARNYY, I.A., prof., red.; PANCHENKOV, G.M., prof., red.; DAKHNOV,
 V.N., prof., doktor geologg-mineralogicheskikh nauk, red.; NAMEKIN,
 N.S., doktor khim.nauk, red.; ALMAZOV, N.A., dots., red.; VINOGRADOV,
 V.N., kand.tekhn.nauk, red.; BIRYUKOV, V.I., kand.tekhn.nauk, red.;
 TAGIYEV, N.I., red.; GUREVICH, V.M., red.; DOBRYNINA, N.P., vedushchiy
 red.; MUKHINA, E.A., tekhn.red.

[Proceedings of an interschool conference on problems of new techniques
 in the petroleum industry] Materialy Mezhevuzovskogo soveshchaniya
 po voprosam novoy tekhniki v neftyanoy promyshlennosti. Moskva, Gos.
 nauchno-tekhn.izd-vo neft. i gorno-toplivnoi lit-ry. Vo.1.
 [Prospecting and exploitation of oil and gas fields] Razvedka i
 razrabotka neftianykh i gazovykh mestorozhdenii. 1958. 311 p.

(MIRA 11:4)

1. Mezhevuzovskoye soveshchaniye po voprosam novoy tekhniki v
 neftyanoy promyshlennosti.

(Petroleum engineering) (Gas, Natural--Geology)

5(1,3)

SOV/20-123-2-22/50

AUTHORS:

Zhigach, K. E., Finkel'shteyn, M. Z., Timokhin, I. M.,
Marinina, A. I.

TITLE:

Production of Carboxy-Methyl Cellulose Fractions and Investi-
gation of Its Physical and Chemical Properties (Polucheniye i
issledovaniye fiziko-khimicheskikh svoystv fraktsiy
karboksimetiltsetillyulozy)

PERIODICAL:

Doklady Akademii nauk SSSR, 1958, Vol 123, Nr 2, pp 289-291
(USSR)

ABSTRACT:

This water soluble sodium salt of the cellulose carboxy-methyl
ester (CMC) has found widespread use in the last years as a
stabilizer, emulsifier, active addition to synthetic deter-
gents, as a glue etc. (Refs 1,2). CMC is a complex polydisperse
product consisting of various fractions that differ from each
other by their chemical composition (Ref 3) and their physical
and chemical properties. CMC can be produced with different
values of the esterification and polymerization. Therefore not
every CMC type is suited for the purpose. Only single types
can be practically used in the one or other branch of industry:
this must be determined in every single case. The connection

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SOV/20-123-2-22/50

Production of Carboxy-Methyl Cellulose Fractions and Investigation of Its Physical and Chemical Properties

between the chemical composition of the CMC samples and their properties and behaviour has remained unexplained until now. These samples almost ever contain a certain amount of small fibers that are difficult to solve and are capable of swelling, the so-called gel-like phase, the content of which can influence in a high degree the properties (especially the rheological properties, Ref 4) of CMC solutions. For these reasons the authors wanted to close this gap. Four samples of CMC were chosen as objects: a) That used for stabilizing loam solutions in drilling (Refs 2,5), b) That serving for the stabilization of silicate salt solutions when drilling into water-endangered and easily sliding soft rocks (Ref 2), and as a glue (Ref 6). c) German samples of the type VHR, d) A special CMC preparation of low viscosity. Besides its fractionation by means of methanol or acetone samples a - c are separated into the gel- and sol-like phases by centrifuging. I The viscosity, II the stabilizing effect were determined of the fractions obtained. The viscosity of the aqueous solutions of CMC above 0.1% does not obey the Newton law. In the 0.05% solutions investigated

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SOV/20-123-2-22/50

Production of Carboxy-Methyl Cellulose Fractions and Investigation of Its Physical and Chemical Properties

the viscosity anomaly was almost completely lacking. The stabilizing effect of the CMC fractions was determined by the filtration analysis with a pressure drop of 1 atmosphere absolute pressure. Table 1 gives the results. As may be seen, the fractionation tends to show a heterogeneity of the CMC with respect to the degree of polymerization and esterification. The properties of the fractions change according to rules with the order of the isolation of the latter: lower polymerized fractions are esterified in a higher degree. The fractions produced by precipitation are not of equal value with respect to their stabilizing properties. It was also shown that the gel-like phase has only a weak stabilization and effect. Besides the degree of polymerization and esterification this must be taken into account. The ratio of the gel- and sol-like phase is not only important when used as a stabilizer of loam solutions. The gel-like phase is the most effective when using it as a glue. There are 1 table and 7 references, 4 of which are Soviet.

Card 3/4

80V/20-123-2-22/50

Production of Carboxy-Methyl Cellulose Fractions and Investigation of Its
Physical and Chemical Properties

ASSOCIATION: Moskovskiy neftyanoy institut im. I. M. Gubkina (Moscow
Petroleum Institute imeni I. M. Gubkin)

PRESENTED: July 3, 1958, by A. V. Topchiyev, Academician

SUBMITTED: July 1, 1958

Card 4/4

5(3),17(3)

AUTHORS:

Zhigach, K. F., Finkel'shteyn, M. Z.,
~~Timokhin, I. M.~~, Malinina, A. I.

SOV/20-123-3-25/54

TITLE:

Carboxy-Methyl Cellulose Preparations for Blood-Substituting
Solutions (Polucheniye preparatov karboksimetilttsellyulozy dlya
krovezameshchayushchikh rastvorov)

PERIODICAL:

Doklady Akademii nauk SSSR, 1958, Vol 123, Nr 3, pp 471-474
(USSR)

ABSTRACT:

The sodium salt of the compound under review (Na-CMC) does not
considerably change the blood composition if used as a plasma
substitute in animals (Ref 1), even not in considerable excess.
Na-CMC, however, was negatively characterized since it causes
hypertension on intravenous injection. It was useful to try the
synthesis of such preparations which also would yield good
results with regard to their hemodynamic properties.
CMC preparations can be produced with different polymerization
degree (PD) and esterification degree (ED). This work was
initiated by the institute mentioned in the "Association"
together with Tsentral'nyy institut gematologii i perelivaniya
krovi - TsOLIPK (Central Institute of Hematology and Blood
Transfusion) in 1953.

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Carboxy-Methyl Cellulose Preparations for
Blood-Substituting Solutions

SOV/20-123-3-25/54

CMC preparations with different PD- and ED-values were obtained by esterification of pulverized alkali cellulose with sodium monochlorine acetate. The quantity of the esterifying agent depends on the PD of the original alkali cellulose. Table 1 shows that, at the same ratio of the reagents, with a lesser PD of alkali cellulose higher EDs are attained. The desired ED can be obtained by a limitation of the sodium monochlorine acetate consumption, as this reduces the PD of the initial cellulose. For the synthesis of blood-substituting solutions only chemically pure CMC preparations can be used. An instruction for the purification is given. In order to obtain a complete solubility the ED of CMC must be high; values of 70-85 do not influence the blood-substituting properties of CMC (Ref 5). From among the CMC preparations tested (PD of 240 up to 58) those with values between 70 and 100 were the most efficient ones (3% aqueous solutions with a viscosity 3.5 - 5.0 centipoises; contrary to Ref 6). The desired preparations with a low PD can be obtained by a) destruction of the initial cellulose and alkaline cellulose, respectively, or b) by additional splitting of finished CMC preparations. Only the mode b) can be recommended.

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Carboxy-Methyl Cellulose Preparations for
Blood-Substituting Solutions

SOV/20-123-3-25/54

In order to accelerate the destruction process of the alkali cellulose that requires a lot of time, by atmospheric oxygen (Table 2), hydrogen peroxide is added to the mercerization bath or to the alkali cellulose during the pulverization. The results of the experiments are given in table 3. Small quantities H_2O_2 (up to 1.5%) do not influence the blood-substituting properties of CMC. Large amounts, if added directly to alkali cellulose, turn CMC preparations toxic, and animals are killed if they are intravenously injected. The increase in the toxic effect cannot be explained by a modification of the average chemical composition. Most probably it is a consequence of the unequal destruction process as well as of the agglomeration of a certain quantity of highly oxidized cellulose by which CMC preparations become toxic. For this reason, H_2O_2 must be used very carefully for the above-mentioned purpose. For the purpose of reducing of the PD below 100 the finished product was hydrolytically cleft with aqueous HCl solution at 65-70°. The duration of this process depends on the initial PD of CMC preparations. Good

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Carboxy-Methyl Cellulose Preparations for
Blood-Substituting Solutions

SOV/20-123-3-25/54

results were yielded with CMC preparations of a relatively low molecular weight (PD about 130). The investigations performed suggest new ways of synthesizing Na-CMC preparations with blood-substituting properties. There are 5 tables and 9 references, 6 of which are Soviet.

ASSOCIATION: Moskovskiy neftyanoy institut im. I. M. Gubkina
(Moscow Petroleum Institute imeni I. M. Gubkin)

PRESENTED: July 3, 1958, by A. V. Topchiyev, Academician

SUBMITTED: July 1, 1958

Card 4/4

ZHIGACH, K.F.; YAROV, A.N.

Determining the swelling of clay. Izv. vys. ucheb. zav.; neft' i
gaz 2 no.10:13-16 '59. (MIRA 13:2)

1. Moskovskiy institut neftekhimicheskoy i gazovoy promyshlennosti
im. akad. I.M. Gubkina. (Clay)

LOPATIN, V.A.; MUKHIN, L.K.; ZHIGACH, K.F.

Influence of circulating fluids on the stability of swelling clay.
Izv.vys.ucheb.zav.; neft' i gaz 6 no.11:29-34 '63. (MIRA 17:9)

1. Moskovskiy institut neftekhimicheskoy i gazovoy promyshlennosti
im. akad.I.M.Gubkina.

GORODNOV, V.D.; ADEL', I.B.; ZHIGACH, K.F.; MOROZOVA, Ye.V.

Effect of external pressure on the swelling of clay rocks in
solutions of chemical reagents. Neft.khoz. 42 no.4:14-18 Ap. '64.
(MIRA 17:9)

CHUMAKOV, Yu.I.; Prinimali uchastiye: ZHIGACH, T.K.; NEKHAYEVA, N.G.;
CHVYREVA, Ye.G.; ISKOVSKIKH, N.G.

Pyridinecarboxylic acids. Metod.poluch.khim.reak. i prepar.
no.7:74-79 '63. (MIRA 17:4)

1. Kiyevskiy politekhnicheskij institut.

ZHIGACHEV, Anatoliy Vasil'yevich

Vice Chmn., Tadzhik Affil., Acad. Sci., -1948-.

"In Memory of Yelena Aleksandrovna Raznitsyna," Pochvoved., No. 6, 1949.

ZHIGACHEV, B. / E.

Zhivaya blokirovka. [Manual block system]. Moskva, Gos. transp. zhel-dor.
izd-vo, 1945. 16 p. diags.

DLC: TF625.Z5

SO: SOVIET TRANSPORTATION AND COMMUNICATION. A BIBLIOGRAPHY. Library of Congress
Reference Department, Washington, 1952, Unclassified.

ZHIGACHEV, B. Ye., inzhener

Using small combustion engine locomotives for marshalling yard
operations. Tekh.shel.dor.7 no.7:28-29 J1'48. (MIRA 8:11).
(Railroads--Switching)

ZHIGACHEV, I.I., insh.

Mutual automatic supply of reserve by low-voltage power sources.
Elektrichestvo no.12:71-76 D '58. (MIRA 11:12)
(Electric power distribution)

SOV/105-58-12-17/28

-8(2)

AUTHOR:

Zhigachev, I. I., Engineer

TITLE:

Automatic Mutual Reservation of Feeding Sources at Low Voltage
(Avtomaticheskoye vzaimnoye rezervirovaniye istochnikov
pitaniya na nizkom napryazhenii)

PERIODICAL:

Elektrichestvo, 1958, Nr 12, pp 71 - 76 (USSR)

ABSTRACT:

In the present paper a few circuit diagrams with an appliance for automatic mutual reservation (AMR) are described. Apart from the closed diagrams these diagrams can be used with any structure of the electrical supply lines with separately working sources of different efficiency. The appliances for AMR are built by the aid of simple large-scale produced automation apparatus of the same type for alternating current and can be used both in the supply systems to be planned and in those already existing. In all the diagrams described in the present paper, the control circuits do not go beyond the boundaries of the switchboard. In the case of complicated supply systems, the structure of which is similar to a closed one, the diagrams described can be used in various combinations. In conclusion it is pointed out that in many cases it is useful

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Automatic Mutual Reservation of Feeding Sources at
Low Voltage

SOV/105-58-12-17/28

not to apply a complicated circuit diagram, but rather that
of the automation of these diagrams, in order to secure an
uninterrupted power supply. There are 8 figures and 4 Soviet
references.

SUBMITTED: November 1, 1956

Card 2/2

(V)

L 24711-66 EWT(m)/ETC(f)/EPF(n)-2/ENG(m) WW

ACC NR: AT6008414

SOURCE CODE: UR/3136/65/000/992/0001/0025

AUTHOR: Goncharov, V. V.; Chernilin, Yu. F.; Shavrov, P. I.; Chernyshevich, V. N.;
Yegorenkov, P. M.; Zhigachev, V. M.; Larin, I. I.; Kornoyev, V. T.; Yashin, A. F.

ORG: none

39
BT/

19
TITLE: Remodeling the IRT reactor at the Institute of Atomic Energy imeni I. V. Kurchatov

SOURCE: Moscow. Institut atomnoy energii. Doklady, IAE-992, 1965. Rekonstruktsiya reaktora IRT v IAE im. I. V. Kurchatova, 1-25

TOPIC TAGS: nuclear reactor, reactor fuel element, nuclear reactor core

ABSTRACT: The authors describe steps taken to redesign the IRT reactor at the Institute of Atomic Energy. The following units and systems were altered to increase the power of the reactor, expand its range of experimental possibilities, and improve its operational qualities: 1. fuel elements and reactor core design; 2. cooling system; 3. experimental units; 4. control and shielding system; 5. radiation-monitoring system; 6. special ventilation. Figures are given showing the

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L 24711-66

ACC NR: AT6008414

longitudinal and transverse cross sections of the reactor as well as detailed diagrams of the reactor core and the channel for the "cold" neutron source. The new fuel assemblies have nearly twice as much heat-transfer area as the rod elements formerly used. Each assembly contains 155 grams of 36% enriched U-235. Metallic beryllium is used as the reflector. The core contains 54 cells in all and has a 50 mm lead shield for stopping γ -radiation. The experimental units include horizontal and vertical channels as well as a "cold" neutron source and a thermal neutron "trap". The modifications made in the reactor give a maximum thermal neutron flux (U-235) in the core of $5 \cdot 10^{13}$ neutrons/cm² sec, a maximum fast neutron intensity ($E > 0.5$ Mev) of $9 \cdot 10^{13}$ neutrons/cm² sec, and a power of 4000-5000 kw. The procedure used for disassembly and reassembly operations in the reactor pool is described. Some of the physical and technical characteristics of the modified IRT-M reactor are tabulated. Orig. art. has: 10 figures, 3 tables.

SUB CODE: 18/ SUBM DATE: 00/ ORIG REF: 000/ OTH REF: 006

Card 2/2

L 39777-65 ENT(m)/E(101)
ACC NR: AT6012692

(D-2)

SOURCE CODE: UR/3136/65/000/991/0001/0044

AUTHOR: Goncharov, V. V.; Babulevich, Ye. N.; Shavrov, P. I.; Ryazantsev, Ye. P.;
Novikov, I. M.; Yegorenkov, P. M.; Chervyatsov, A. A.; Frolov, I. P.; Zhigachev,
V. M.; Pushkin, B. T.; Fishevskiy, V. K.; Zakharov, L. K.; Kruglov, A. B.; Karasev,
N. A.; Goncharov, L. A.

ORG: State Committee on the Use of Atomic Energy SSSR, Institute of Atomic Energy
in. I. V. Kurchatov, Moscow (Gosudarstvennyy komitet po ispol'zovaniyu atomnoy
energii SSSR, Institut atomnoy energii)

TITLE: Experience in operation of the MR reactor and tests of fuel elements and
materials

SOURCE: Moscow. Institut atomnoy energii. Doklady, no. 991, 1965. Opyt eks-
pluatatsii reaktora MR i provedeniye ispytaniy TVEL i materialov, 1-44

TOPIC TAGS: nuclear research reactor, reactor fuel element, nuclear reactor
material, nuclear reactor characteristic

ABSTRACT: The authors discuss the loop research reactor MR constructed at the
Kurchatov Institute of Atomic Energy and intended for the test of fuel elements
and materials in new atomic installations. It is described in paper P/323 of the
Third Geneva Conference in 1964. The present article describes in detail its con-

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ACC NR: A76012692

struction and the various test loops in it. The section headings are: I - Introduction. II. Operation of reactor. 1. Certain physical characteristics of the reactor. a) Fuel burnup. b) Efficiency of control valves, scram rods, and movable fuel assemblies. c) Fluxes of thermal and fast neutrons. 2. Control and protection system of the reactor. 3. Technological systems of the reactor. a) Cooling loop for fuel element assembly. b) Cooling loop for the reactor assembly blocks. c) Intermediate (second) cooling loop of reactor. d) Third cooling loop of reactor. e) Water purification system. 4. Fuel assembly operating conditions and conditions for the graphite stacking blocks. 5. Reloading operations. III. Operation of loop installations. Organization and performance of tests on fuel elements and materials. IV. Dosimetric control. Radiation shielding of reactor. The reactor has been in operation since 24 July 1964, and its power has been gradually increased from the initial 20 MW to 30 MW. The usual operation is at 25 MW. The reactor has 3 loop channels with 7 associated experimental channels. Various characteristics of the reactor at different power ratings are tabulated. Major contributions to the adjustment of the MR reactor were made by A. Ye. Alekseyev, B. A. Alekseyev, S. N. Begichev, A. B. Burayenko, Yu. I. Kovalev, V. K. Lebedev, A. M. Rotankov, V. D. Rusov, N. V. Sarychev, Ye. S. Chernorotov, and Yu. A. Shikov. Orig. art. has: 13 figures and 6 tables.

SUB CODE: SUBM DATE: 00/ ORIG REF: .001

Card 2/277LP

ZHIGACHEVA, A.M.

New linen fabrics and manufactured articles. Tekst. prom. 25
no.10:10-11 O '65. (MIRA 18:10)

1. Nachal'nik otдела r'nyanoy promyshlennosti Vsesoyuznogo
instituta assortimenta izdeliy legkoy promyshlennosti i
Kul'tury odezhdy.

83688

S/032/60/026/009/002/018
B015/B058

// 3000

AUTHORS:

Datskevich, A. A., Zhigacheva, L. P., Krasnova, G. V.,
Lapitskaya, M. D., Latukhova, A. G., Moshinskaya, M. B.

TITLE:

Determination of Small Amounts of ²H₂ in ⁴He

PERIODICAL:

Zavodskaya laboratoriya, 1960, Vol. 26, No. 9,
pp. 1082 - 1083

TEXT: A method of determining hydrogen in helium according to the adsorption development chromatography was elaborated. The experiments were made on a XT-2M (KhT-2M) chromatographic instrument with a developer based on the thermochemical principle (Ref. 1). The working conditions were selected in such a way that a detector could determine both components by two characteristics, i.e., helium by the thermal conductivity and hydrogen by the heat of combustion. A 6 m long metallic separation column, filled with CKT (SKT) coal and with air as carrier gas, was used for analyses at room temperature. The sensitivity to hydrogen amounted to 0.5% at a relative accuracy of 5%. A 10 m long polyvinyl chloride tube was used for analyses at low temperatures and work was carried out

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Determination of Small Amounts of Hydrogen
in Helium

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B015/B058

at - 35°C, making it possible to obtain a better separation and to use larger sample quantities, so that the sensitivity rose to 0.05%. A comparison of the measuring results on the Kht-2M instrument with those obtained at a combustion over copper oxide is tabulated. There are 2 figures, 1 table, and 1 Soviet reference.

ASSOCIATION: Konstruktorskoye byuro avtomatiki i telemekhaniki
(Design Office for Automation and Telemechanics).
Vsesoyuznyy nauchno-issledovatel'skiy geologorazvedochnyy
neftyanoy institut (All-Union Petroleum Scientific Re-
search Institute of Geological Survey). Moskovskiy zavod
szhizhoniya prirodnogo gaza (Moscow Plant for Liquefying
Natural Gas)

Card 2/2

BORISOV, V.I.; LEVIT, Z.Yu., inzh.; KALININ, V.Z., inzh.; KROVKIN, M.G., inzh.; AGAL'TSOV, N.V., inzh.; ZHIGACHEVA, T.F., inzh.; LOBANOV, V.S., inzh.; ALIMOV, M.F., inzh.; VIKSMAN, I.M., inzh.; LAZAREV, V.Ya., inzh.; ZALEVSKAYA, L.V., tekhnik; SHCHETVINA, R.F., tekhnik; SOKOLOVSKIY, I.A., red.; SHALAGINOV, A.A., vedushchiy red.

[Special and basic equipment of mechanical assembly shops in instrument plants] Nestandartnoe oborudovanie i orgosnastka mekhanicheskikh sborochnykh tsekhov priborostroitel'nykh zavodov. Moskva, Otdel nauchno-tekhn. informatsii, 1959. 158 p.

(MIRA 15:4)

(Instrument industry—Equipment and supplies)

ZHIGALEV, N.V., inzhener; MAKSIMOVA, L.T.

Device for wood inlay work. Der.i lesokhim.prom.3 no.1:24-25
Ja '54. (MLRA 7:2)

1. Rishskiy mebel'nyy kombinat No.1.

(Marquetry)

ZHIGALEV, P.I., veterinarnyy vrach.

Ayens therapy of babesiasis. Veterinariia 30 no.6:33-34 Je '53.
(MLRA 6:5)

1. Vurnarskiy soovettekhnikum, Chuvashskoy ASSR.

KORTSENSHTEYN, Vol'f Nukhimovich, doktor geol.-miner. nauk; Prini-
mali uchastiye: SPEVAK, Yu.A.; ZHIGALIN, R.I.; MUKHIN,
Yu.V., kand. geol.-miner. nauk, nauchnyy red.; BOGACHEVA,
N.G., ved. red.; STAROSTINA, L.D., tekhn. red.

[Methods for hydrogeological studies of oil- and gas-
bearing regions] Metodika gidrogeologicheskikh issledovaniy
neftegazonosnykh raionov. Moskva, Gostoptekhizdat, 1963.
167 p. (MIRA 16:5)

(Oil field brines)

S/138/63/000/001/001/008
A051/A126

AUTHORS: Bashkatov, T. V., Zhigalin, P. L., Rumyantseva, A. N.

TITLE: On the development of the Soviet synthetic rubber industry

PERIODICAL: Kauchuk i rezina, no. 1, 1963, 1 - 3

TEXT: The year 1962 marked the 30th anniversary of the Soviet synthetic rubber industry. According to the Seven-Year Plan 1959 - 65, production should increase by a factor of 3.4 as compared to 1958. New improved polymerization composition of SR at three plants, employing a new oxidation-reduction system and using modified colophony as emulsifier, the introduction of new emulsifiers, coagulating agents and regulators at all the other SR plants, perfecting the production technology are named as means to raise the quality. The production of CKC (SKS) and CKMC (SKMS) non-oil-filled and highly oil-filled rubbers is planned on recommendation of the Scientific Research Institutes ВНИИСК (VNIISK) НИИИП (NIISHP). Stereo-regulated butadiene and isoprene rubbers are meant to replace natural rubber. СКД (SKD) rubber is to be produced by the Efremov, Yaroslavl, Voronezh, and Kazan' SR plants using butadiene obtained from alcohol. Other, older

Card 1/3

S/138/63/000/001/001/008
A051/A126

On the development of the Soviet synthetic rubber...

SR plants intend using butadiene produced from butane; for example, the Novokuybyshev petroleum-chemical plant. The Seven-Year Plan further includes the production of high-quality regular-structure isoprene rubber CKH -3 (SKI-3) in three newly constructed SR plants. Production of special rubbers, such as: butyl, chloroprene, nitrile, silicon, polyisobutylene, butadiene-methylvinylpyridine, butylacrylate, and polyetherurethane rubbers is intended. Synthetic latexes are being extensively introduced to various industries. Natural gas, residual gases of the petroleum industry, petroleumstabilising by-products, and some hydrocarbon fractions of oil refining will be used in the future as the initial raw material in the SR industry. By 1965, butadiene produced by butane dehydration will increase to 44% of the total quantity; alcohol-produced butadiene will drop to 56%. Isoprene will be produced by catalytic dehydration of isopentane, isobutylene by isobutane dehydration. Styrene and methylstyrene will be produced by dehydration of ethylbenzene and isopropylbenzene. To take up again the production of disproportionated colophony, dodecylmercaptane, dimethyldithiocarbamate, diisopropylbenzene, hydrogenperoxide, trilon B, rongalit, purified fatty acids, zinc stearate, etc., is regarded one of the major future tasks of the SR industry. Another problem is the expansion and development of scientific research and experimentation. In this

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On the development of the Soviet synthetic rubber...

S/138/63/000/001/001/008
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connection, the All-Union SR Institute im. S. V. Lebedev BHIWCK (VNIISK) has been expanded, in addition to the Scientific Research Institute of Monomers for SR, HHIWCK (NIIMSK). The Hypro-rubber Institute for designing SR plants has gained in significance. Emphasis is placed on increasing the volume of experimental data and the number of new types of machinery and equipment.

ASSOCIATION: Gosudarstvenniy komitet po khimii pri Gosplane SSSR
(State Committee on Chemistry at the Gosplan USSR)

Card 3/3

ZHIGADLO, A.V.

S

19

The Detection of Defects in Steel Parts by the Magnetic Powder Method. A. V. Zhigadlo, (Zavodskaya Laboratoriya, 1939, No. 4-6, pp. 434-448). (In Russian). Observations made in tests on aircraft parts by the magnetic powder method are dealt with. The object of the investigation was to determine the sensitivity of the method in detecting defects of various shapes and size, both on and below the surface. The methods employing residual circular magnetization (induced by passing an instantaneous direct or alternating current through the parts) and an external field (produced by either direct or alternating current passed through the parts or by an electromagnet) were studied from the above point of view using parts with natural and artificial defects. In the former case, the defects detected were marked and the parts were then sectioned and examined microscopically. A considerable amount of data concerning the sensitivity of the different methods is given in tabular form. In the method in which an external electromagnet was used it was observed that the results may be masked by magnetic effects due to the configuration of the parts being tested.

AIR-56 METALLURGICAL LITERATURE CLASSIFICATION

RUSSIAN SYRILIC

RUSSIAN ROMAN

RUSSIAN ROMAN

RUSSIAN ROMAN

RUSSIAN ROMAN

RUSSIAN ROMAN

ZHIGADLO, A. V.

FA 3/49T39

USGR/Engineering
Inspection
Magnetic Materials

Aug 48

"Colored Magnetic Powders for the Inspection of
Indistinct Detail by the Suspension Method," A. V.
Zhigadlo, All-Union Inst of Aviation Materials,
7 pp

"Zevod Lab" Vol XIV, No 8-7p.442-48

Describes brightly colored magnetic powders for
detection of flaws in intermediate and finished
parts. Pigment is retained on magnetic particles
by means of oil-resisting gums or resins, so
powders can be applied as suspensions, which is

3/49T39

USGR/Engineering (Contd)

Aug 48

more effective than dry dusting. Appended tables
and graphs show results of tests.

3/49T39

ZHIGADLO, A. V.

Cand. Tech. Sci.

Dissertation: "Magnetic Particle Method and its Application for the
Inspection of Aircraft Parts."

25 Jun. 49

Scientific Council, All-Union Inst. of Aviation Materials.

SO Vecheryaya Moskva
Sum 71

ZHIGADLO, A.V.

25(6)

P.2

PHASE I BOOK EXPLOITATION

SOV/3075

Defektoskopiya metallov; sbornik statey (Flaw Detection in Metals; Collection of Articles) Moscow, Oborongiz, 1959. 458 p. Errata slip inserted. 4,550 copies printed.

Ed.: D.S. Shrayber, Candidate of Technical Sciences; Ed.: M.S. Lagovskaya; Tech. Ed.: V.P. Rozhin; Managing Ed.: A.S. Zaymovskaya, Engineer.

PURPOSE: This book is intended for engineers and technicians in the field of nondestructive inspection and testing of metals.

COVERAGE: This collection of articles deals with methods of nondestructive inspection and testing of metals. Results of investigations conducted at scientific research institutes and plants of magnetic, electrical, X-ray, ultrasonic, and fluorescent-penetrant methods of flaw detection are described. Detailed descriptions of flaw-detection methods and equipment are presented. Data are given on the status of the development of flaw-detection methods in non-Soviet countries. No personalities are mentioned. References follow several of the articles.

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Flaw Detection (Cont.)

SOV/3075

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L 24509-66 EWT(d)/EWP(e)/EWT(m)/EWP(w)/EWP(g)/EWP(v)/T/EWP(t)/EWP(k)/EWP(l)/
ACC NR: AP6007705 ETC(m)-6 IJP(c) SOURCE CODE: UR/0413/66/000/003/0084/0084

JD

AUTHOR: Zhigadlo, A. V.; Kifer, I. I.; Semenovskaya, I. B.

ORG: none

TITLE: Water-base magnetic paste for detection of powder metal flaws in parts.
Class 42, No. 178557

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 3, 1966, 84

TOPIC TAGS: flaw detection, powder metal, magnetic paste, paste

ABSTRACT: An Author Certificate has been issued describing a water-base magnetic paste for detection of powder metal flaws in parts; the paste contains a ferromagnetic powder, alkals and wetting agents. In order to make the paste more sensitive to flaw detection, its composition is as follows: ferromagnetic powder, 50%; potassium bichromate, 9%; soda ash (or any other commercial-grade soda), 16%; glycerin, 26%, wetting agent, 9%.

[LD]

SUB CODE: 11/ SUM DATE: 08Aug64/

Card 1/1 B1A

UDC: 620.179.14

L 22740-66 EWP(j)/EWT(m)/T RM
 ACC NR: AP6006359 (A) SOURCE CODE: UR/0413/66/000/002/0094/0094
 AUTHOR: Rubtsova, I. K.; Kirilovich, V. I.; Andrianova, N. V.;
 Klapovskaya, O. A.; Zhigadlo, G. I. 37
 ORG: none B
 TITLE: Stabilization of polyethylene terephthalate. Class 39,
 No. 178103 [announced by the Scientific Research Institute of Plastics
 (Nauchno-issledovatel'skiy institut plasticheskikh mass)]
 SOURCE: Izobreteniya, promyshlennyye obraztzy, tovarnyye znaki, no. 2,
 1966, 94
 TOPIC TAGS: polyethylene terephthalate, polymer, chemical
 stability
 ABSTRACT: The Author Certificate describes a method for stabilizing
 polyethylene terephthalate with polyphosphites. To increase the number
 of types of phosphorus containing polymer stabilizers, a middle poly-
 phosphite, such as polydiphenylolpropanophosphite, is proposed for use
 as a decyanoethylated diamine. [LD]
 UDC: 678.674'524'420
 678.021.122
 SUB CODE: 11, 07/
 Card 1/1 20
 SUBM DATE: 30Jul64

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ZHIGAL', P., polkovnik, voyenny letchik 1-go klassa

We are ready to carry out any order of the motherland. Komm.

Vooruzh.Sil 2 no.19:58-59 0 '61.

(MIRA 14:9)

(Russia--Air force)

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SMIRNOVA, L.G., rabotnik; ZHIGALENKOVA, R.S., rabotnik;
DUBOVA, L.S., rabotnik

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Some problems in the development of the Soviet synthetic rubber industry. Kauch.i rez. 22 no.1:1-3 Jp '63. (MIRA 16:6)

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(Rubber, Synthetic)

VERIGIN, N.N., prof.; Primalni Uchastiye: KITSIS, R.A., inzh.;
ZHIGALIN, B.I., inzh.; AFINOGENOVA, M.V., inzh.;
VINOGRADOVA, G.M., red. izd-va; KASIMOV, D.Ya., tekhn. red.

[Methods of determining the filtration properties of rocks]
Metody opredeleniya fil'tratsionnykh svoystv gornyykh porod.
Moskva, Gos. izd-vo lit-ry po stroit., arkhitekt. i stroit. ma-
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snabzheniya, kanalizatsii, gidrotekhnicheskikh sooruzheniy i
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(Rocks—Permeability)

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(MLRA 10:6)

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REEL # 803

ZHELEZNOVA, ye.F.

to

Zhigalin, T.M.

Σnd